

Notice of Allowability**Application No.**

10/598,642

Applicant(s)BUDZELAAR, FRANCISCUS
PAULUS MARIA**Examiner**

Koosha Sharifi

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/12/09.
2. ☒ The allowed claim(s) is/are 1-4 and 6-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date <u>11/24/09</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>05/15/2008</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>Email of Proposed Amendments</u> . |

/K. S./
Examiner, Art Unit 2629

/Amare Mengistu/
Supervisory Patent Examiner, Art Unit 2629

EXAMINER'S AMENDMENT

1. Applicant's election with traverse of claims 1-11 in the reply filed on 11/12/09 is acknowledged.

a. Examiner agrees with Applicant all of the claims are generic.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Raymond J. Ho on 11/24/2009, **specifically Raymond J. Ho has emailed and faxed the Examiner a proposed amendment as requested by the Examiner to incorporate allowable subject matter of claim 5 into claim 1 to put the case in condition for allowance.**

The application has been amended as follows:

Please amend the claims, as proposed by the Applicant, as follows:

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1. (Currently Amended) Active matrix display device (6) comprising a display panel (2) with a matrix of display pixels (3), and row and column electrodes (11,12) coupled to said display pixels (3), each of said display pixels (3) having a current mirror circuit adapted to receive a programming current (I_{prog}) via said column electrodes (11) and to reproduce said programming current (I_{prog}) for driving an emissive element (14), wherein said display device (6) is further arranged to execute a calibration phase wherein a calibration voltage (V_{cal}) is applied at each column electrode (11) before said programming current (I_{prog}) is applied and said calibration voltage is substantially maintained at said column electrode (11) for each of said display pixels (3) until said programming current (I_{prog}) is applied, and wherein each of said display pixels (3) further comprises calibration circuitry having a capacitor (C_{cal}) and a transistor (T_{cal}) whose current carrying electrodes are connected between said column electrode (11) and a first plate of said capacitor (C_{cal}), and is arranged to charge said capacitor (C_{cal}) prior to said calibration phase and to discharge during said calibration phase via said transistor (T_{cal}) such that the gate of said transistor (T_{cal}) carries a voltage substantially equal to the sum of said calibration voltage (V_{cal}) and a threshold voltage (V_t) of said transistor (T_{cal}).

5. (Canceled).

6. (Currently Amended) Active matrix display device (6) according to claim 5 1, wherein said calibration circuitry comprises one or more switches (S5, S6) to control said charging and discharging of said capacitor (C_{cal}) and wherein said display device (6) comprises a display controller (7) for controlling said switches (S5,S6).

7. (Currently Amended) Active matrix display device (6) according to claim 5 1, wherein a second plate of said capacitor (C_{cal}) is connected either to ground or to a substantially constant voltage supply.

10. (Canceled).

11. (Canceled).

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance:

The prior art does not teach or suggest:

1. (Currently Amended) Active matrix display device (6) comprising a display panel (2) with a matrix of display pixels (3), and row and column electrodes (11,12) coupled to said display pixels (3), each of said display pixels (3) having a current mirror circuit adapted to receive a programming current (I_{prog}) via said column electrodes (11) and to reproduce said programming current (I_{prog}) for driving an emissive element (14), wherein said display device (6) is further arranged to execute a calibration phase wherein a calibration voltage (V_{cal}) is applied at each column electrode (11) before said programming current (I_{prog}) is applied and said calibration voltage is substantially maintained at said column electrode (11) for each of said display pixels (3) until said programming current (I_{prog}) is applied, and wherein each of said display pixels (3) further comprises calibration circuitry having a capacitor (C_{cal}) and a transistor (T_{cal}) whose current carrying electrodes are connected between said column electrode (11) and a first plate of said capacitor (C_{cal}), and is arranged to charge said capacitor (C_{cal}) prior to said calibration phase and to discharge during said calibration phase via said transistor (T_{cal}) such that the gate of said transistor (T_{cal}) carries a voltage substantially equal to the sum of said calibration voltage (V_{cal}) and a threshold voltage (V_t) of said transistor (T_{cal}).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

[Kim, Chang Yeon et al., US 20030038760 A1] discloses: Precharging of pixels.

[Yoo, Juhn Suk, US 20040090400 A1] discloses: A data driving apparatus and method of driving organic electro luminescence display panel.

[Shin, Dong-Yong et al., US 20050110721 A1] discloses: Precharging of pixels.

[Yamazaki, Katsunori et al., US 20050122289 A1] discloses: A pixel with a current mirror circuit.

[Fish, David Andrew, US 20050151705 A1] discloses: An EL display device and a pixel with a current mirror circuit.

[Takahara, Hiroshi et al., US 20050168491 A1] discloses: In paragraph 1111 a black level voltage is written into the source signal line before the current to be programmed is output to the source signal line.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Koosha Sharifi whose telephone number is (571) 270-5897. The examiner can normally be reached on Mon - Fri / 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Koosha Sharifi

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Examiner
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/K. S./
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